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EXAMINER	
LIU, SAMUEL W	

ART UNIT	PAPER NUMBER
1656	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,478	KOSUTIC ET AL.	
	Examiner	Art Unit	
	SAMUEL W. LIU	1656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3* is/are pending in the application.

4a) Of the above claim(s) *none* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 December 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of claims

The preliminary amendment filed 12/2/05 which cancels claims 4-13 has been entered. Claims 1-3 are examined in this Office action.

Claim benefit

Applicant's claim for the benefit of a prior-filed application 60482130 filed 6/24/03 which has full support for instant claims under 35 U.S.C. 119(e) is acknowledged.

Objection to specification

The disclosure is objected to because of the following informalities:

(1) The specification is objected to because the trade-name "Cytosensor®" (page 94, lines 20 and 27) should be capitalized wherever it appears and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

(2) At page 2, line 23, the term "PEG" should be spelled out in full for the first instance of use; see also, page 10, line 17, "AUCs".

(3) The continuity at page 1, line 1, should indicate that this application is a 371.

Objection to claims

Claim 1 is objected to because "amine function of Lys^{11}" and "amine function of Lys^{18}" should be changed to "amine group of Lys^{11}" and "amine group of Lys^{18}", respectively.

Claim Rejections - 35 USC § 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

Claims 1 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 3 recite "Lys^{11}" and " Lys^{18}" without reciting the corresponding SEQ ID NO:. The claimed "salmon calcitonin" is broadly but reasonably interpreted as including salmon calcitonin precursor polypeptide or matured polypeptide thereof (see NCBI (2009, updated) calcitonin 1 precursor – salmon, www.ncbi.nlm.nih.gov/protein/2144645?ordinalpos=1&itool=EntrezSystem2.PEntrez.Sequence.Sequence_ResultsPanel.Sequence_RVDocSum, pages 1-2). Provided that "calcitonin" in the claims refers to the precursor calcitonin polypeptide, numbering of "Lys^{11}" and " Lys^{18}" will not be consistent with the calcitonin precursor polypeptide; and thus, recitation of the amino acid sequence thereof with sequence identifier is necessary; otherwise, claims 1 and 3 are considered to be indefinite.

Claim Rejections - 35 USC §102(e)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3 are rejected under 35 U.S.C. 102(e) as anticipated by Soltero et al. (US 6770625 B2).

In patent claim 62, Soltero et al. teach a method of treating a bone disorder such as "Paget's disease" which has intense pain symptom (see "*Discussion of art*" [2]) comprising administering to a subject in need a pharmaceutical composition comprising "calcitonin (CT)-drug-oligomer conjugate"; wherein CT is salmon calcitonin (patent claim 38), and wherein the "oligomer" preferably is "polyethylene glycol" (PEG) (see col. 24, lines 27, 35 and 36) linked to Lys^{11} and Lys^{18} residues of calcitonin (patent claim 38). Thus, Soltero et al. inherently teach the method of instant claim 1.

Soltero et al. teach the structure: "Salmon calcitonin-$[CO\text{-}(CH_2)_7\text{-}(OC_2H_4O)_7CH_3]_2$" (see col. 31, lines 3-8) wherein "-$(OC_2H_4O)_7$-" is PEG moiety subunits (see col. 25, lines 7-16), "CO-$(CH_2)_7$-" is a lipophilic moiety that preferably is a fatty acid moiety (see col. 25, lines 37-40), and wherein "**2**" in outside parentheses "[ ]" indicates two residues of CT peptide, i.e., Lys^{11} and Lys^{18}, are conjugated to the PEG moieties. This meets the structural limitation of the "conjugate" of claim 3; and thus, Soltero et al. teach the method of instant claim 3.

Soltero et al. teach that **a** (one) hydrolysable bond between drug peptide and the "oligomer" (see col. 33, lines 47-50). In accordance with the claim 38 disclosure that PEG is coupled to the "oligomer" (i.e., calcitonin) via Lys^{11} and Lys^{18} residues of calcitonin, thus, one of these two ε-lysine amino groups is conjugated to the PEG through said "hydrolysable bond"

while the other remains non-hydrolysable. This meets the structure of claim 2 "conjugate".

Therefore, Soltero et al. inherently teach the method of instant claim 2.

Claim Rejections - 35 USC §102(b)/103(a)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1 is rejected under 35 U.S.C. 102 (a) or 102(e) as anticipated by, or, in the alternative, under 35 U.S.C. 103(a) as unpatentable over as obvious over Lee et al. (US 6506730 B1).

In patent claim 1-2, Lee et al. teach a method of treatment comprising administering a pharmaceutical composition comprising polyethylene glycol conjugated (PEGylated) calcitonin to mammal in need; wherein the PEGylation occurs at Lys^{11} and Lys^{18} residues of calcitonin (see also Example 4); and wherein the treatment is for Paget's disease, pain from the bone absorption and calcitonin is obtained from Salmon (see col. 6, line 24-28). This teaches the method of instant claim 1.

Claim Rejections - 35 USC §103(a)

The text of those sections of Title 35, U.S. Code of 103(a) has been set forth above .

[1] Claim 1 is rejected under 35 U.S.C. 103(a) as unpatentable over as obvious over Russo A. F. (US Pat. No. 5976788) in view of Komarova et al. (*Calcif. Tissue Int.* (2003, online published on 6/6/03) 73, 265-273).

Russo teaches that calcitonin **(CT)** has therapeutic application for relieve pain such as "hypercalcemia pain" (see col. 9, lines 18-21).

Yet, Russo does not expressly teach use PEGylated CT for treating pain, wherein PEGylation includes PEGylation at Lys^{11} and Lys^{18} residues of CT (claim1).

Komarova et al. teach PEGylation of CT at Lys^{11} and Lys^{18} residues and teach advantages of the PEGylation of enhance stability, increases half-life and decrease immunogenicity of said CT peptide (see p.265, right col., 2nd paragraph, and Fig. 1), as applicable to claim 1 and 3.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the PEGylated CT for treating the pain condition, wherein the PEG moiety is conjugated to the CT peptide directly through amino acids Lys^{11} and Lys^{18}. This is because Russo has taught usefulness of CT peptide for treating pain, and becasue Komarova et al. have taught that such the PEGylated CT peptide, which amine groups of Lys^{11} and Lys^{18} side chains are conjugated to PEGs, is advantageous over the unpegylated peptide thereof in at least aspects: enhanced stability, increases half-life and decreased immunogenicity. Thus, it would have been obvious to use the PEGylated CT for said pain treatment with reasonable expectation of success. Therefore, combination of the references' teachings render claim 1 *prima facie* obvious.

[2] Claim 2 is rejected under 35 U.S.C. 103(a) as unpatentable over as obvious over Russo A. F. (US Pat. NO. 5976788) in view of Komarova et al. (*Calcif. Tissue Int.* (2003, online published on 6/6/03) 73, 265-273) and Ekwuribe N. (US Pat. No. 6638906 B1).

Russo teaches that calcitonin **(CT)** has therapeutic application for relieve pain such as "hypercalcemia pain" (see col. 9, lines 18-21).

Komarova et al. teach PEGylation of CT peptide and the advantages of the PEGylation: enhance stability, increases half-life and decrease immunogenicity of said CT peptide (see p.265, right col., 2nd paragraph, and Fig. 1).

Yet, neither Russo nor Komarova et al. expressly teaches attachment of a non-hydrolysable linker between the peptide PEGylated and polyethylene glycol (PEG).

At col. 8, lines 30-37, Ekwuribe teaches PEGylation of therapeutic including calcitonin (*32 amino acid peptide*) and luminal cholecystokinin releasing factor (LCRF, *35 amino acid peptide, see col. 2, line 7; LCRF is used an exemplified molecule in his invention*), and teaches that in the PEGylated peptide, one of linkers/bonds between PEGs and the peptide is hydrolysable (e.g., K19) while the rest or other are/is non-hydrolysable (see col. 24, lines 27-29, Fig. 2, "Designs 2-3", and patent claims 5, 10-11, 13 and 15). Ekwuribe teaches three advantages of said non-hydrolysable bond in the peptide-PEG conjugate [which are the key features of their invention]: (i) resistant to proteolysis, (ii) enable appropriate receptor binding when in vivo delivered, and (iii) enhanced biological half-life (see col., 25, lines 7-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to introduce a hydrolysable linker or bond between the peptide and PEG moiety. This is because Russo has taught usefulness of CT peptide for treating pain, and Komarova et al. have taught that the PEGylated CT peptide is advantageous over the unpegylated peptide at least in three aspects: enhanced stability, increases half-life and, and decreased immunogenicity. Upon reading the Ekwuribe's patent, one skilled in the art would have realized that the CT PEGylation can be further modified by making a hydrolysable bond between the PEG moieties and the CT peptide which offers the three benefits: (i) rendering the modified peptide more protease-resistant, (ii) rendering the peptide better binding to its in vivo receptor when administered and (iii) enhanced half-life (see above discussion), and would have also known that extend the modification method taught by Ekwuribe with regard to the incorporation of the "non-

hydrolysable bond" can be readily extended from "LCRF" into "CT", since both CT (32 amino acids) and LCRF (35 amino acids) structurally contain internal lysine (K19 for "LCRF" and L11/K18 for "CT"), and both are feasible for PEGylation and chemical modification, and since Ekwuribe have explicitly taught that their disclosure is NOT limited to "LCRF" but rather extends to the peptides such as calcitonin (CT) (see col. 8, lines 32-37) and have taught that said hydrolysable linker/bond allows the modified peptide to be released over time, to act as a prodrug (see col. 5, lines 12-18). Thus, I would have been obvious for one skilled in the art to TRY to produce the PEGylated CT peptide in which the linker/bond between PEG and the CT peptide at either Lys^{11} or Lys^{18} is hydrolysable with other being non-hydrolysable in accordance with the Ekwuribe's teaching of making **a** hydrolysable linker/bond at an internal lysine (see col. 24, lines 27-29), and use the produced CT peptide thereof for treating the pain condition. When tried, it would have been necessarily led the one skilled in the art to reasonable expectation of success. Therefore, combination of the references' teachings render claim 2 *prima facie* obvious.

[3] Claim 3 is rejected under 35 U.S.C. 103(a) as unpatentable over as obvious over Russo A. F. (US Pat. NO. 5976788) in view of Komarova et al. (*Calcif. Tissue Int.* (2003, online published on 6/6/03) 73, 265-273), Ekwuribe N. (US Pat. NO. 6638906 B1) and Crotts et al. (UA 2003/0017203 A1).

Russo teaches that calcitonin **(CT)** has therapeutic application for relieve pain such as "hypercalcemia pain" (see col. 9, lines 18-21).

Komarova et al. teach PEGylation of CT peptide and the advantages of the PEGylation: enhance stability, increases half-life and decrease immunogenicity of said CT peptide (see p.265, right col., 2nd paragraph, and Fig. 1).

Crotts et al. teach a biological difficult for salmon calcitonin to penetrate the mucus membranes which limits bioavailability of the calcitonin (see [0004], lines 11-15).

Yet, neither Russo nor Komarova et al. expressly teaches attachment of a carboxylic acid as a linker between the peptide and PEG.

Ekwuribe teaches incorporation of a carboxylic acid such as fatty acid (see col. 11, lines 7-8) into between PEG moiety and the PEGylated peptide in order to enable better penetration of the PEGylated peptide through the cell membrane, which is mimic penetration enhancer (see Example section at col. 11, lines 28-32, and lines 37-40 and col. 6, lines 60-67). Ekwuribe further teaches that lipophilic (hydrophobic) portion of fatty acid is distal to the point of attachment to the LCRE peptide (col. 11, lines 7-8); this is an obvious structural variation of the claim 3 limitation as to carboxylic acid is coupled at the end distal to the carboxylic acid moiety to PEG moiety.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a fatty acid (a type of "carboxylic acid) into PEG conjugated the CT peptide between the conjugation sites: Lys^{11} or Lys^{18} of said peptide and the PEG moieties. This is because Russo has taught usefulness of CT peptide for treating pain, and Komarova et al. have taught that the PEGylated CT peptide is advantageous over the unpegylated peptide at least in three aspects: enhanced stability, increases half-life and, and decreased immunogenicity. Upon reading Cortts et al. patent, one skilled in the art would have realized the problem of

bioavailability of the calcitonin peptide caused by the membrane penetration of said peptide, and realized that the incorporated fatty acid in the PEGylated peptide wherein the fatty acid acts as membrane penetration enhancer for "LCRT" peptide will be also beneficial for the PEGylated CT peptide. Having been motivated by said benefit taught by Ekwuribe, one skilled in the art would have tried to extend the result in this regard from "LCRT" peptide into the CT peptide with reasonable expectation of success since both "LCRT" and CT" peptides have similar peptide length with internal lysine and have proved to be feasible for PEGylation (see above corresponding discussion) and since Ekwuribe has addressed that their inventions is not limited to the "LCRF" but rather applicable for other therapeutic peptides, e.g., the CT peptide (see col. 8, lines 30-37). Therefore, combination of the references' teachings render claim 3 *prima facie* obvious.

Claim Rejection -Obviousness Type Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b). Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

[1] Claims 1-2 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6, 11 and 12 of US Pat. No. 7084121 (**121**). Although the conflicting claims are not identical, they are not patentable distinct from each other because of the following reasons.

Claims 11-12 of 121' disclose a method of treating osteoporosis Paget's disease (a bone disorder associated with intense pain in some stage thereof, see col. 1, lines 47-59) comprising administering PEGylated calcitonin wherein the calcitonin peptide is coupled to at least one PEG moiety encompassing "two PEG moieties". Since the calcitonin peptide contains two internal lysine residues Lys^{11} or Lys^{18}, claims 12-13 are obvious variation of instant claim 1.

Claim 6 of 121' discloses that calcitonin is covalently coupled to the polyethylene glycol moiety by a hydrolyzable bond, a non-hydrolyzable bond or both; and thus, claims 11-12 together with claim 6 are obvious variation of instant claim 2.

[2] Claims 1-3 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 38 and 62 of US Pat. No. 6770625 (**625**). Although the conflicting claims are not identical, they are not patentable distinct from each other because of the following reasons.

Claims 38 and 62 of 625' discloses a method of treating a done disorder such as "Paget's disease" which has intense pain symptom comprising administering to a subject in need a pharmaceutical composition comprising "calcitonin (CT)-drug-oligomer conjugate"; wherein CT is salmon calcitonin (patent claim 38), and wherein the "oligomer" preferably is "polyethylene

glycol" (PEG) (see col. 24, lines 27, 35 and 36) linked to Lys^{11} and Lys^{18} residues of calcitonin (patent claim 38). This disclosure is an obvious variation of instant claim 1.

The disclosed "CT-drug-oligomer conjugate" inherently comprises a lipophilic moiety, e.g., a fatty acid moiety [(see col. 3, lines 3-8, the structure of the oligomer: "Salmon calcitonin-$[CO\text{-}(CH_2)_7\text{-}(OC_2H_4O)_7CH_3]_2$" wherein "$\text{-}(OC_2H_4O)_7$" is PEG moiety subunits (see col. 25, lines 7-16), "$CO\text{-}(CH_2)_7$-" is a lipophilic moiety that preferably is a fatty acid moiety (see col. 25, lines 37-40), and wherein "**2**" in outside parentheses indicates two residues of CT peptide, i.e., Lys^{11} and Lys^{18} which are conjugated to the PEG moieties]. Thus, claim 62 is an obvious variation of instant claim 3.

Also, the disclosed "CT-drug-oligomer conjugate" inherently comprises **a** (one) hydrolysable bone between drug peptide and the "oligomer" (see col. 33, lines 47-50). In accordance with the claim 38 disclosure that PEG is coupled to the "oligomer" (i.e., calcitonin) via Lys^{11} and Lys^{18} residues of calcitonin, thus, one of these two ε-lysine amino groups is conjugated to the PEG through said "hydrolysable bone" while the other remains non-hydrolysable. Therefore, claim 62 is an obvious variation of instant claim 2.

Conclusion

No claims are allowed.

Discussion of the art

The prior art made of record and not currently relied upon in any rejections is considered pertinent to Applicants' disclosure:

[1] Opawale et al. (US 2005/0095261 A1) teach use of PEGylated calcitonin to treat pain (see [0054] and [0091]). Yet, this reference is not considered o be the prior art because it does not antedate the instant invention.

[2] Yamamoto et al. (US 5059587) teach pain in bond disorder Paget's disease (col. 1, lines 64-65).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Wei Liu whose telephone number is571-272-0949. The examiner can normally be reached from 9:00 a.m. to 5:30 p.m. on weekdays. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Weber Jon, can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 703 308-4242 or 703 872-9306 (official) or 703 872-9307 (after final). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-4700.

/Samuel Wei Liu/
Examiner, Art Unit 1656
February 23, 2009

/JON P WEBER/
Supervisory Patent Examiner, Art Unit 1657